

Application No.: 10/036,993

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RESPONSE

Remarks

Claims 1, 14, 15, 28 and 29 have been amended and request is made for entry of new claims 47 - 49. Support for amendments to claims 1; 15 and 29 exists on page 5, line 7, which indicates that the tube is an extruded tube. Amendment to claims 14 and 28 finds support on page 5, lines 4 - 14. This portion of the description of the present application provides methods for forming perforations or grooves or both in the wall of the tube. New claims 47 - 49 recite that the extruded tube "has a substantially continuous wall having a substantially uniform thickness." References to "the wall of the tube" appear e.g. on page 5, line 14; page 10, line 23; page 11, line 10 and page 11, lines 20 - 26. Figures 2 and 7 show that the wall is a substantially continuous wall having a substantially uniform thickness.

Amendments to existing claims and submission of new claims have been made without addition of new matter to the application. Claims 1 - 49 are currently pending.

Examination and reconsideration of the application as amended is requested.

Rejection of Claims Under 35 USC §112

The Office Action indicated rejection of claims under 35 U.S.C. §112 as follows:

Claims 14 and 28 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Details of the rejection are included for convenience as follows:

1. The term "means of" in claim 14 and 28 is a relative term which renders the claim indefinite. The term "means of" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claims 14 and 28 have been amended to clarify the use of methods of ablation and mechanical cutting known to one skilled in the art for forming primary and secondary weakening lines in cores according to the present invention.

Applicants submit that rejection of claims 14 and 28 under 35 U.S.C. §112, second paragraph, has been overcome and should be withdrawn.

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Rejection of Claims Under 35 USC §102

Claims 1 - 11, 14 are rejected under 35 U.S.C. §102(b) as being anticipated by Tsukazaki et al.

Summary of the Reference of Tsukazaki et al (U.S. 5,589,667)

The present application, on page 2, lines 3 - 23, recounts how the core of Tsukazaki et al. is a hollow structure formed by bending a flat sheet of plastic material into a tube-like shape. A tube-like shape, according to Tsukazaki et al, requires interlocking means elements at the one longitudinal edge to interlock with their respective interlocking means counterparts at the other longitudinal edge. Conversion of a flat sheet of Tsukazaki et al. to a tube-like shape would not be possible without placement of interlocking projections (15, 16) along opposing edges (13, 14) of the sheet (11), as illustrated in Figure 2 of the reference. Figure 1 of Tsukazaki et al. shows that the interlocking projections (15, 16) produce a joint (12) in the tube-like shape of the core (1). The joint (12) causes the curvature of the outer surface of the core (1) to deviate from the smooth circular cross-section of an extruded hollow cylinder. The tube of Tsukazaki et al. does not meet the description of either an extruded tube or extruded cylinder since the core does not have circular cross-section and includes a discontinuous wall due to the interlocked joint.

Claim 1 has been amended to recite that a removable core for supporting a pre-stretched elastomeric tube in a radially expanded condition, according to the present invention, comprises an "extruded tube" having a first end and a second end. The reference of Tsukazaki et al. does not teach a core formed from an extruded tube or that the extruded tube has a substantially continuous wall having a substantially uniform thickness between the first end and the second end, as clarified by new claim 47, which depends from claim 1. The surface of the interlocked joint of Figure 8 (identified as a basis for rejection) deviates less from circular curvature than that of some of the other figures of the reference, but it does not suggest an extruded tube because it requires an engagement section (33) of female (34) and male (35) engagement sections to stabilize formation of a hollow core. Tsukazaki et al. fails to anticipate an extruded tube support core according to amended claim 1 of the present invention. For this reason, the rejection of claim 1 under 35 U.S.C. § 102(b) as being anticipated by Tsukazaki et al has been overcome and should

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be withdrawn. Claims 2 - 11 and claim 14 depend from claim 1. Since amended claim 1 is allowable, claims depending therefrom should likewise be allowable.

The Office Action also includes rejection of claims 29 - 43, 46 under 35 U.S.C. §102(b) as being anticipated by Tsukazaki et al.

Claim 29 has been amended to recite that a removable core, according to the present invention, comprises "a unitary extruded tube." For the reasons given with regard to amended claim 1, the reference of Tsukazaki et al. does not teach extruded tubular core structures, but instead teaches the joining of opposing edges of a sheet having interlocking projections that hold the sheet in the approximate shape of a tube or cylinder. New claim 49 depends from claim 29 to further clarify that the extruded tube has a substantially continuous wall having a substantially uniform thickness between the first and second opposite ends. Tsukazaki et al. fails to anticipate a unitary extruded tube support core according to amended claim 29 of the present invention. The rejection of claim 29 under 35 U.S.C. § 102(b) as being anticipated by Tsukazaki et al has been overcome and should be withdrawn. Claims 30 - 43 and claim 46 depend from claim 29. Since amended claim 29 is allowable, claims depending therefrom should likewise be allowable.

In summary, the rejection of claims 1 - 11, 14, 29 - 43 and 46 under 35 U.S.C. §102(b) as being anticipated by Tsukazaki et al. has been overcome and should be withdrawn.

Rejection of Claims Under 35 U.S.C. §103

The Office Action indicated rejection of claims under 35 U.S.C. §103(a) as follows:

Claims 12, 13, 15 - 28, 44, 45 are rejected under 35 U.S.C. §103(a) as being unpatentable over Tsukazaki et al. in view of Sadlo et al. (5925427).

Claims 12 and 13 depend from claim 1. As discussed above, claim 1 as amended is patentable over the reference of Tsukazaki et al. Claims 12 and 13 add further limitations to claim 1 and should likewise be patentable.

Claim 15 has been amended to clarify that the claimed removable core comprises an extruded tube having first and second opposite ends. Tsukazaki et al fails to teach an extruded tubular core. New claim 48 depends from claim 15 to clarify that the extruded tube has a substantially continuous wall (see e.g. page 5, line 14 and Figures 2 and 7) having a substantially uniform thickness between the first and second opposite ends.

The Office Action admits that the reference of Tsukazaki et al. fails to teach aspects of the present invention, which failings are considered rectified by application of Sadlo et al. Since the formation of each of the cores of Tsukazaki et al. and Sadlo et al. rely on interlocking or coupling projections (see e.g. U.S. 5,589,667 col. 3, lines 1 - 11 and U.S. 5,670,223 col. 3, lines 38 - 45), neither one teaches nor suggests the use of an extruded hollow cylinder as needed for a support core of the present invention.

The combination of references of Tsukazaki et al. and Sadlo et al. fails to either teach or suggest an extruded tube support core according to amended claim 15 of the present invention, which claim is unobvious over the references. The rejection of claim 15 under 35 U.S.C. § 103(a) as being unpatentable over Tsukazaki et al in view of Sadlo et al. has been overcome and should be withdrawn. Claims 16 - 28 depend from claim 15. Since amended claim 15 is patentable, claims depending therefrom should likewise be patentable.

Claims 44 and 45 depend from claim 29 adding further limitations thereto. For the reasons given previously, claims of the present invention are unobvious over Tsukazaki et al. This renders the combination of Tsukazaki et al. and Sadlo et al. flawed as a basis for rejection for obviousness. Having shown that amended claim 29 is allowable, claims 44 and 45, which depend from claim 29, must be is patentable over the references.

In summary, the rejection of claims 12, 13, 15 - 28, 44, 45 under 35 U.S.C. §103(a) as being unpatentable over Tsukazaki et al. in view of Sadlo et al. has been overcome and should be withdrawn.

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Applicants have made an earnest attempt to respond to each point made by the Examiner. Based on the foregoing reasons, it is submitted that the application is in condition for allowance. Request is respectfully made for reconsideration of the application and allowance of amended claim 1, 14, 15, 28 and 29, as well as dependent claims 2 -13, 16 - 27, 30 - 46 and new claims 47 - 49.

Please charge Deposit Account 13-3723 any amounts due and owing by reason of this response. For further questions, please contact Applicant's agent who may be reached at telephone number (512) 984-5258.

Respectfully submitted,

By Alan Ball

Alan Ball

Registration Number 42,286	Telephone Number (512) 984-5258
Date <i>July 1, 2003</i>	

Office of Intellectual Property Counsel
3M Innovative Properties Company
P.O. Box 33427
St. Paul, Minnesota 55133-3427
Facsimile: (651) 736-3833

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1. (amended) A removable core for supporting a pre-stretched elastomeric tube in a radially expanded condition comprising:

an extruded tube having a first end and a second end,
at least one primary line of localized weakening starting at the first end and terminating at the second end of the extruded tube, and
a plurality of substantially parallel secondary lines of localized weakening, wherein each secondary weakening line extends from the at least one primary weakening line at the one side thereof to a termination point at the other side of the at least one primary weakening line and spaced apart therefrom and wherein adjacent secondary weakening lines alternately extend from the at least one primary weakening line to termination points on opposite sides of the at least one primary weakening line to define at least one strip beginning at the first end of the extruded tube and continuing substantially in a serpentine manner to the second end of the extruded tube.

14. (amended) The removable core according to claim 1, wherein the primary and secondary weakening lines are formed using means to remove material from the extruded tube [by] including methods of ablation [of material of the tube by means] selected from the group consisting of [a] laser ablation [or] electron beam ablation, plasma ablation [or] and fluid jet ablation [application or by means of] and methods for mechanically cutting [of] the extruded tube.

15. (amended) A removable core for supporting a pre-stretched elastomeric tube in a radially expanded condition comprising

an extruded tube having first and second opposite ends,
at least two primary lines of localized weakening starting at the first end and terminating at the second end of the extruded tube, and spaced apart in circumferential dimension of the extruded tube, and

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a plurality of substantially parallel secondary lines of localized weakening, wherein each secondary weakening line extends substantially circumferentially of the extruded tube between two adjacent primary weakening lines from one primary weakening line to a termination point spaced apart from the other primary weakening line and wherein adjacent secondary weakening lines between two respective adjacent primary weakening lines alternately extend from different primary weakening lines to termination points spaced apart from the respective other primary weakening line to define at least two strips each beginning at the first end of the extruded tube and substantially circumferentially continuing in a serpentine manner to the second end of the extruded tube.

28. (amended) The removable core according to claim 17, wherein the primary and secondary weakening lines are formed using means to remove material from the extruded tube [by] including methods of ablation [of material of the tube by means] selected from the group consisting of [a] laser ablation, [or] electron beam ablation, plasma ablation [or] and fluid jet ablation [application or by means of] and methods for mechanically cutting [of] the extruded tube.

29. (amended) A removable core for supporting a pre-stretched elastomeric tube in a radially expanded condition comprising

a unitary extruded tube having first and second opposite ends,

a plurality of sections of a primary line of localized weakening spaced apart and arranged adjacent to each other wherein the arrangement of the plurality of primary weakening line sections extends from the first end of the extruded tube to the second end thereof and

a plurality of substantially parallel secondary lines of localized weakening, a group of the secondary weakening lines being associated to each of the primary weakening line sections, respectively, wherein each secondary weakening line of the group extends from the associated primary weakening line section at the one side thereof to a termination point at the other side of the respective primary weakening line

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section and spaced apart therefrom, wherein adjacent secondary weakening lines of the group extend from the respective primary weakening line section at different sides thereof to termination points at the respective other side of the respective primary weakening line section, and wherein from one end of a respective primary weakening line section there extends a secondary weakening line at the one side of this primary weakening line section to an opposite end of an adjacent primary weakening line section at the other side thereof to define a strip beginning at the first end of the extruded tube and continuing substantially in a serpentine manner within the areas of the plurality of primary weakening line sections and continuing substantially helically between respective adjacent primary weakening line sections to the second end of the tube the strip comprising a free end starting from the second end of the extruded tube and extending through the extruded tube so as to project from the first end of the extruded tube.